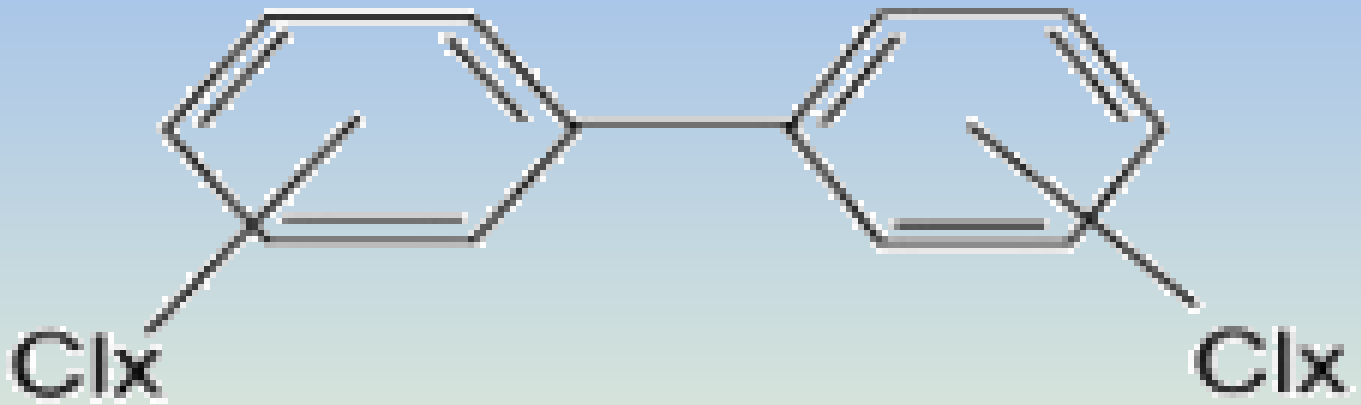
PCB TMDL Monitoring Guidance – 2nd Meeting

VPDES Point Source Discharges



Alan Pollock, Charles Martin & Arthur Butt
VADEQ
June 11, 2007

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VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

Overview

- Objective
- Review
  - Background
  - Monitoring & Methods
    - Permit Guidance
    - Issues
      - Where
      - Who
      - When
  - Response to Comments
  - Guidance Development

< Lunch >

- Data Quality Issues

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

Objective

- ***To establish guidance and procedures for implementing PCB point source monitoring through the VPDES permit program for development of TMDLs.***
- **Schedule – 3 meetings**
  - **March 29, 2007**
  - **June 11, 2007**
  - **Final meeting with guidance document – *July***

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Purpose

Develop Total Maximum Daily Load (TMDL)

Collect source-specific PCB effluent to:

- improve information concerning potential sources of PCBs
- develop PCB monitoring procedures
  - ensures representative and comparable
  - adopt sampling and analytical procedures

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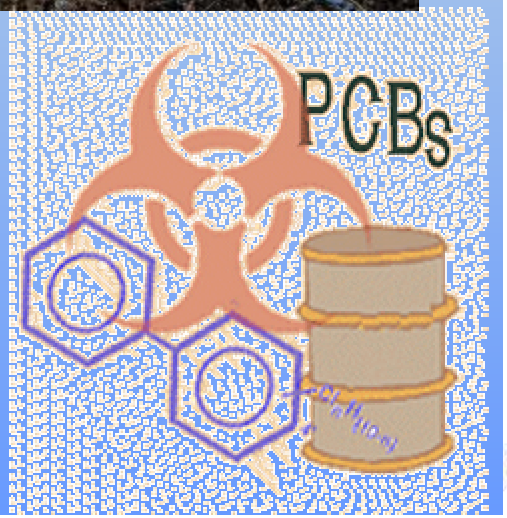
Role of the TAC
Guidance Development

The Technical Advisory Committee (TAC) represents the interested agencies, utilities, local governments, businesses, and environmental groups. The TAC will:

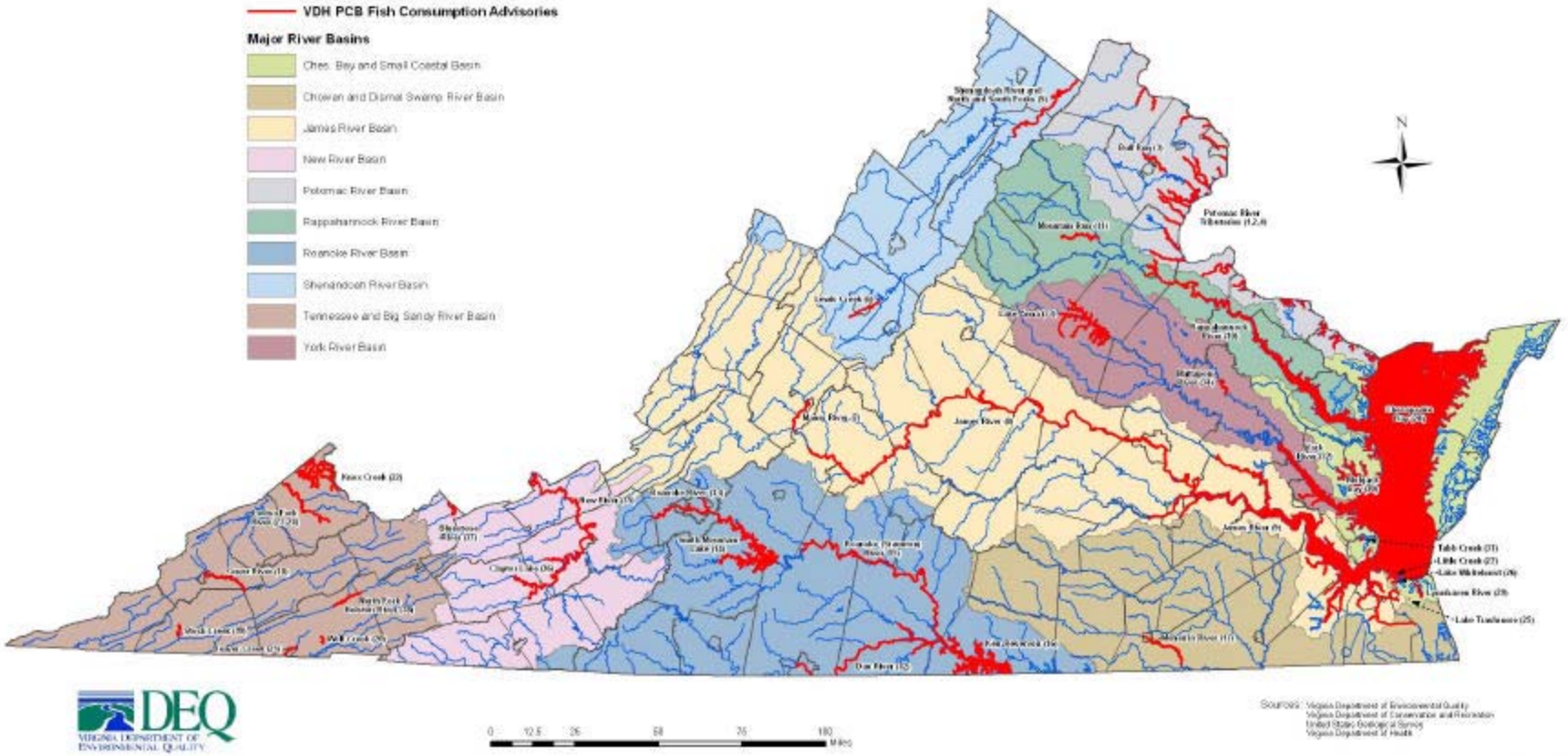
- review methods & processes
- advise on technical issues
- assist with guidance development
- assist with public outreach

Background



VDH PCB Fish Consumption Advisories

(October 2004)



What and When

- State and federal law require TMDLs to be developed for **impaired** waters
- Impaired waters do not meet applicable **water quality standards** (WQS)
- Waters that do not meet WQS do not support their **designated use(s)**

How is a TMDL developed?

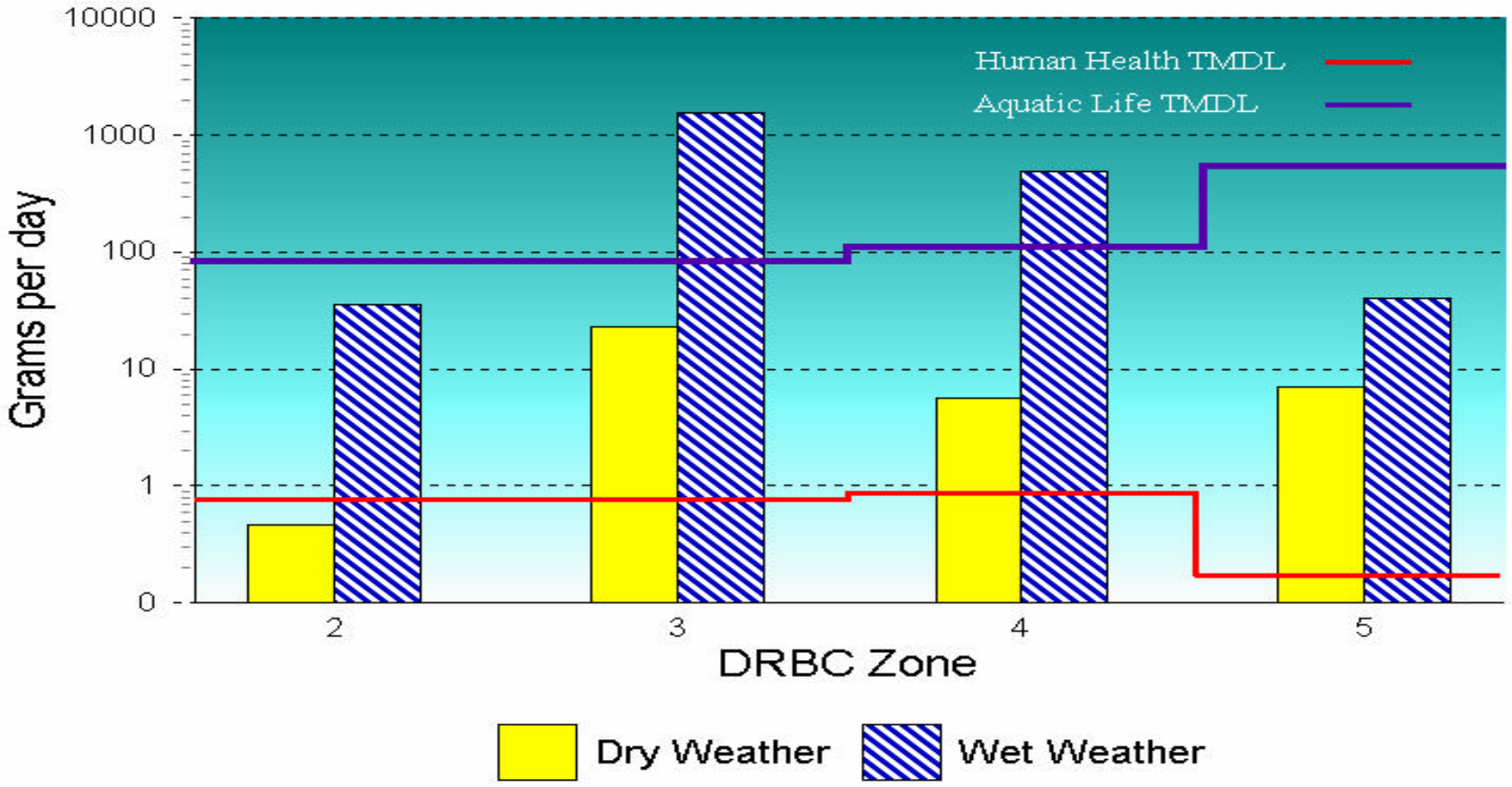
- Identify **all *sources*** of a given pollutant (e.g., PCBs) within the watershed.
- Calculate the ***amount*** of pollutant entering the estuary from each source.
- Include pollutant ***fate and transport*** .
- Calculate the ***pollutant reductions needed***, by source, to attain water quality standards.
- ***Allocate the allowable loading*** to each source and include a margin of safety.

Greg Cavallo, DRBC

Delaware River Basin Commission

DELAWARE · NEW JERSEY
PENNSYLVANIA · NEW YORK
UNITED STATES OF AMERICA

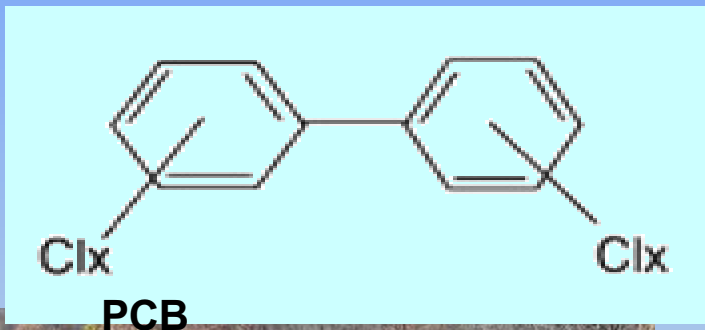
PCB Mass Loading by Zone



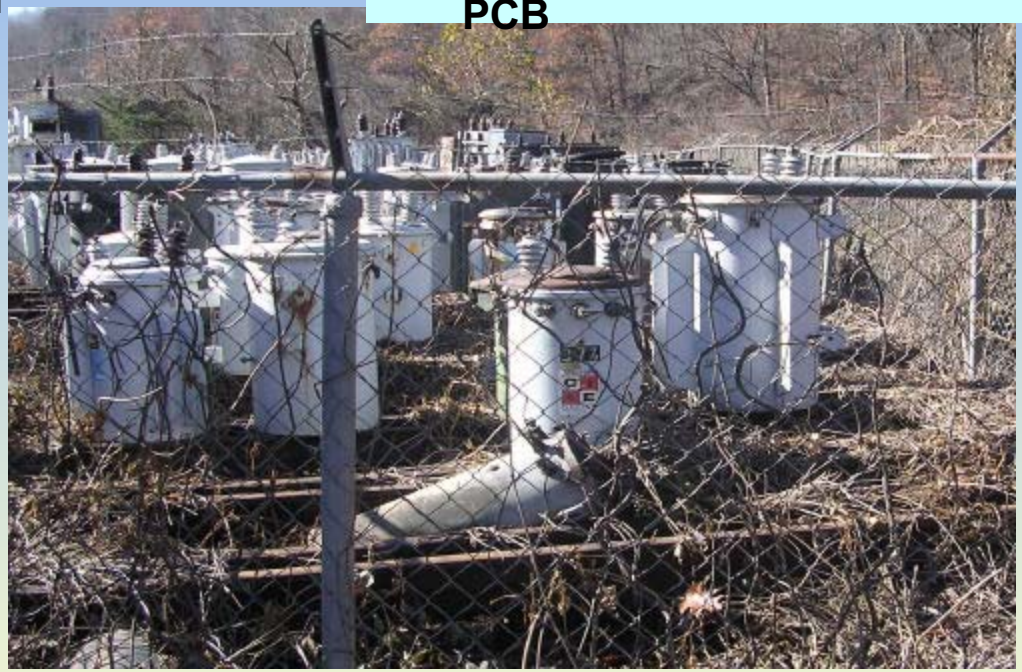
Mark Richards, DEQ

Discussion Overview

- PCB Primer
- Sample Collection Options
- PCB Analysis
- QA/QC
- Interpreting Results
  - Decision Rules
- Effluent Results



PCB



Allan Brockenbrough - Permits How?

1. Voluntary monitoring program

2. Via VPDES Permit condition
   - Would have to wait VPDES permit is modified/reissued
3. Require by letter via 9 VAC 25-31-190.H.

3. Require by letter via 9 VAC 25-31-190.H.

H. Duty to Provide Information

The permittee shall furnish to the department, within a reasonable time, any information which the board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. The board may require the permittee to furnish, upon request, such plans, specifications, and other pertinent information as may be necessary to determine the effect of the wastes from his discharge on the quality of state waters, or such other information as may be necessary to accomplish the purposes of the law. The permittee shall also furnish to the department upon request, copies of records required to be kept by the permit.

- **Used infrequently**
- **Initiate immediately**

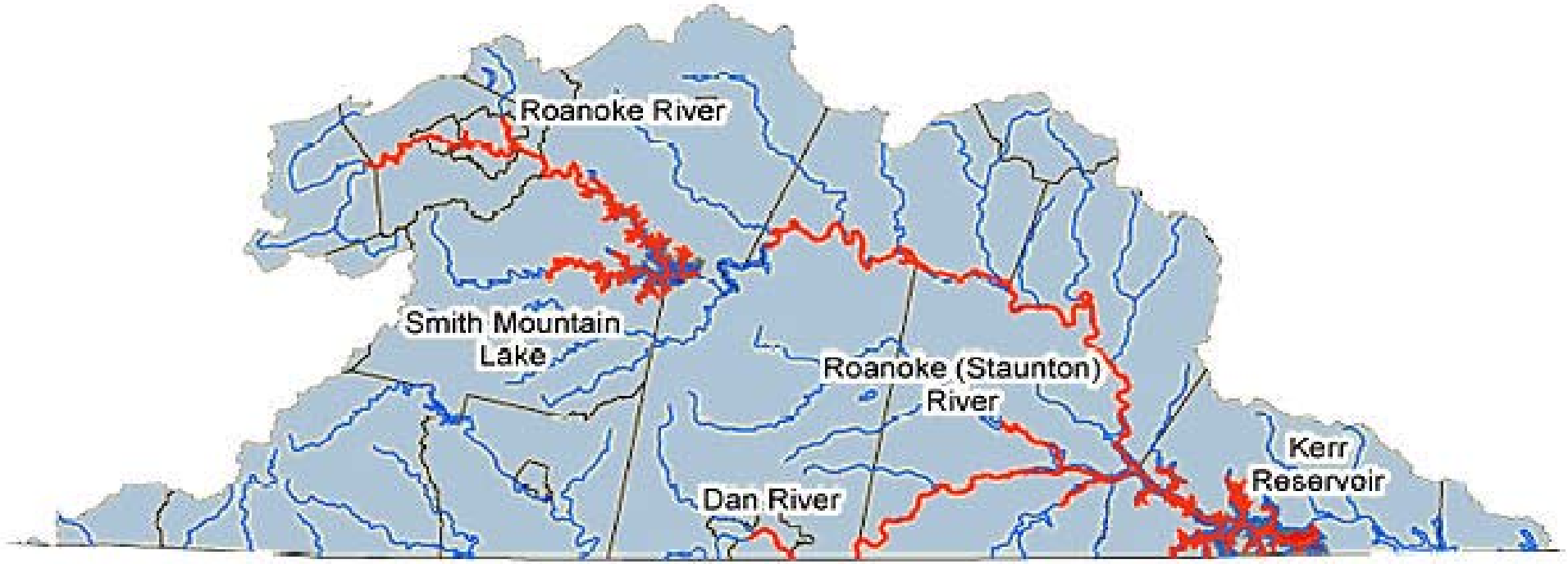
Current PCB TMDLs

- Roanoke
- Bluestone
- Potomac River

Roanoke River Basin

Scroll down for more detail.

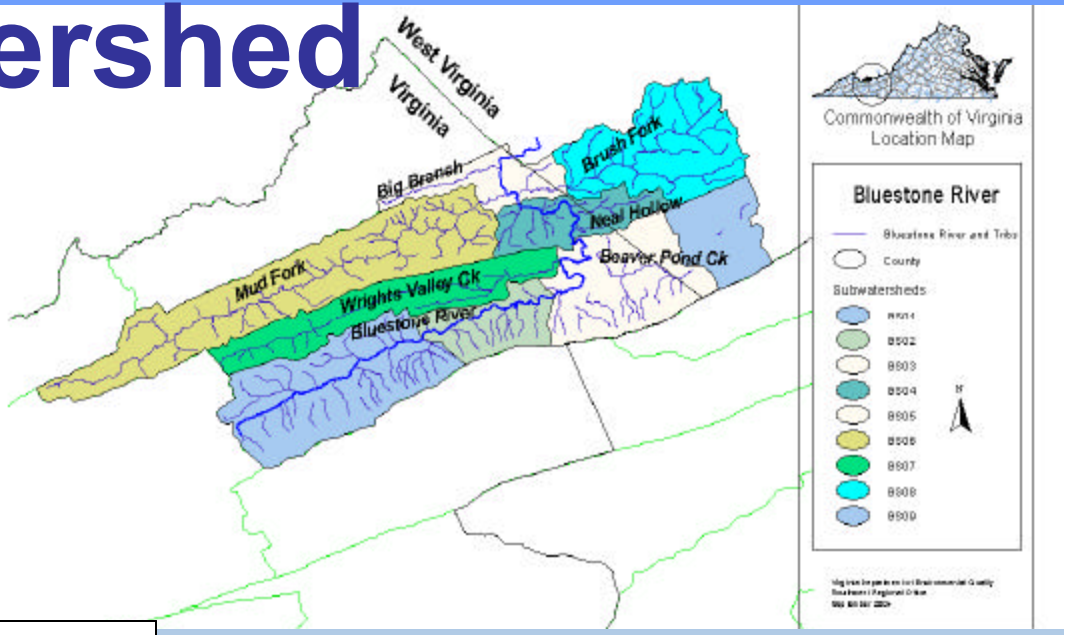
- **PCB Fish Consumption Advisories**

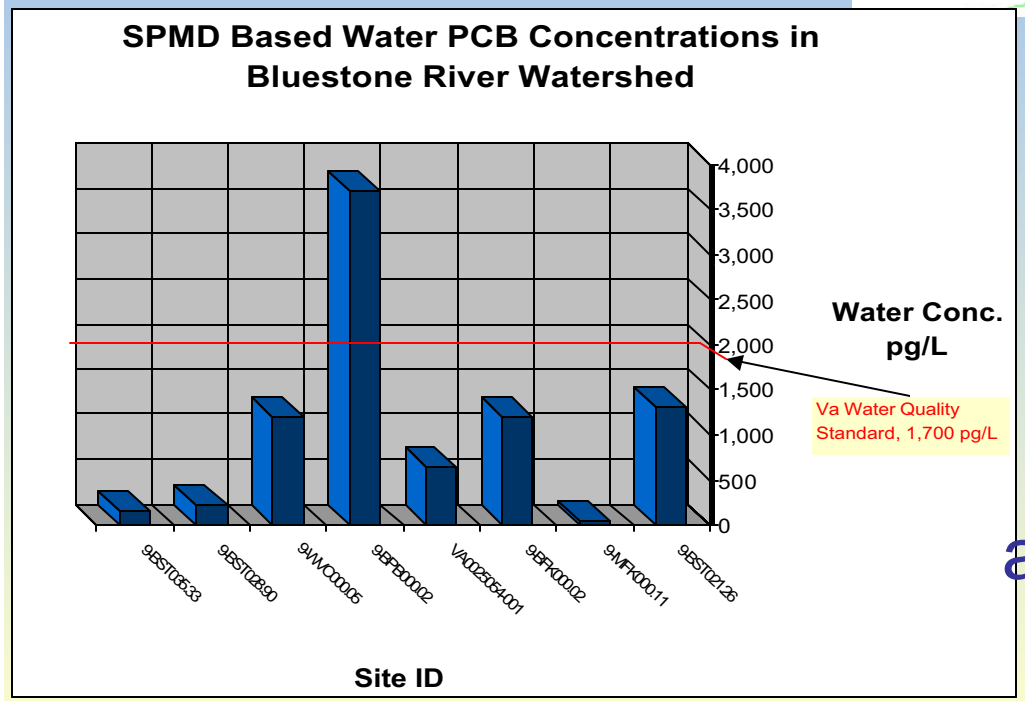


Upper Roanoke River Monitoring :

- Samples (SPMD + ambient)
- 30 stations (including 4 WWTPs) = $ 75,000

Bluestone Watershed
2004-2005





Monitoring:

8 stations (1 STP)

34 ambient samples +
atmospheric = **$103,200**

Tidal Potomac River

PCB sample locations

- Ambient Water column sample
- Other sample
- WWTP

Monitoring:

? 11 WWTP (25 samples) -

? ambient samples

- 31 SPMDs -
- 20 grabs (41 samples)
- Chain Bridge (5 samples)

Total = $ 225,000

Who -

PCB impaired waters

- Municipal (1 mgd)
- CSOs
- Industrial (SIC list)
- Stormwater outfalls
- MS4
- Mining outfalls
- Non-contact cooling waters

- Recommendations -

- **Requirements**
  - **Strategy w/n 2 yrs of TMDL**
  - **Formal vs voluntary**
- **Monitoring**
  - **Composite grab**
  - **Wet & Dry**
  - **1-3 each**

PCB Strategy

Llists 37 advisories divided into -

TMDL development groups:

- **near-term (TMDLs due by 2007)**
- **mid-term (TMDLs due by 2009) and**
- **long term (TMDLs due by 2011 through 2014 depending on priority)**

PCB Strategy

Lists 37 advisories divided into TMDL development groups:

- ***near-term (TMDLs due by 2007)***
- ***mid-term (TMDLs due by 2009)***

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monitoring requirements

"formal notification vs voluntary"

PCB Strategy

- **long term**

TMDLs due by 2011 through 2014 depending on priority

Issues -

- formal notification vs voluntary
- re-issuance permit
- new permits

Stormwater

Permits

Phase One

1. Industrial activities (including construction [A,C] and surface coal mining [B])
2. Individual municipal (large and medium) w/ separate MS4 [C]
3. Construction activity [C] (land disturbance > 5 acres)

Phase Two

1. Construction activity (land disturbances < 5 acres) [C]
2. Small MS4 [C]

A - DEQ
B - DMME
C - DCR

Industrials

Potential PCB Source

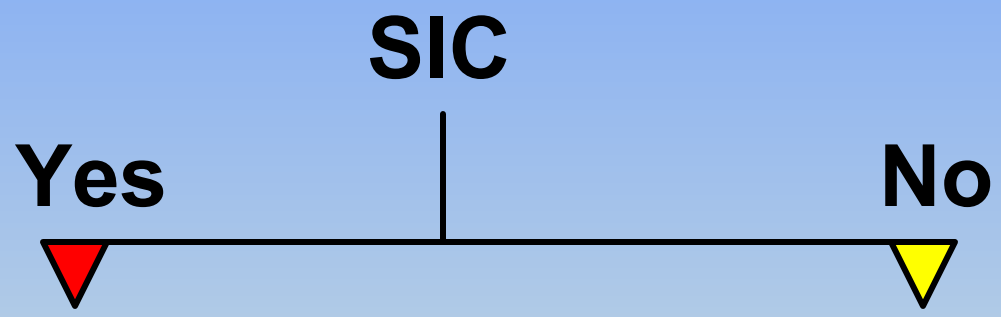
- Stormwater
- Direct discharge

Probable source of PCB
- industrial / commercial -

SIC Code	Code Name Facility
26	Paper and Allied Products
30	Rubber and Misc. Plastics
33	Primary Metal Industries
34	Fabricated Metal Products
37	Transportation Equipment
49	Electrical, Gas and Sanitary Services
1221 & 1222	Bituminous Coal

Source: Belton et al. 2005

Probable Source of PCBs



Monitoring

- stormwater (# samples)
- effluent (# samples)

Options

- Monitoring
- Affidavit

Schedule

- **Summary**
  - **Minutes to TAC**
  - **Post on web**
- **Meetings**
  - ***March 29th***
  - ***June with draft guidance***
  - **Final meeting with guidance document – *July***

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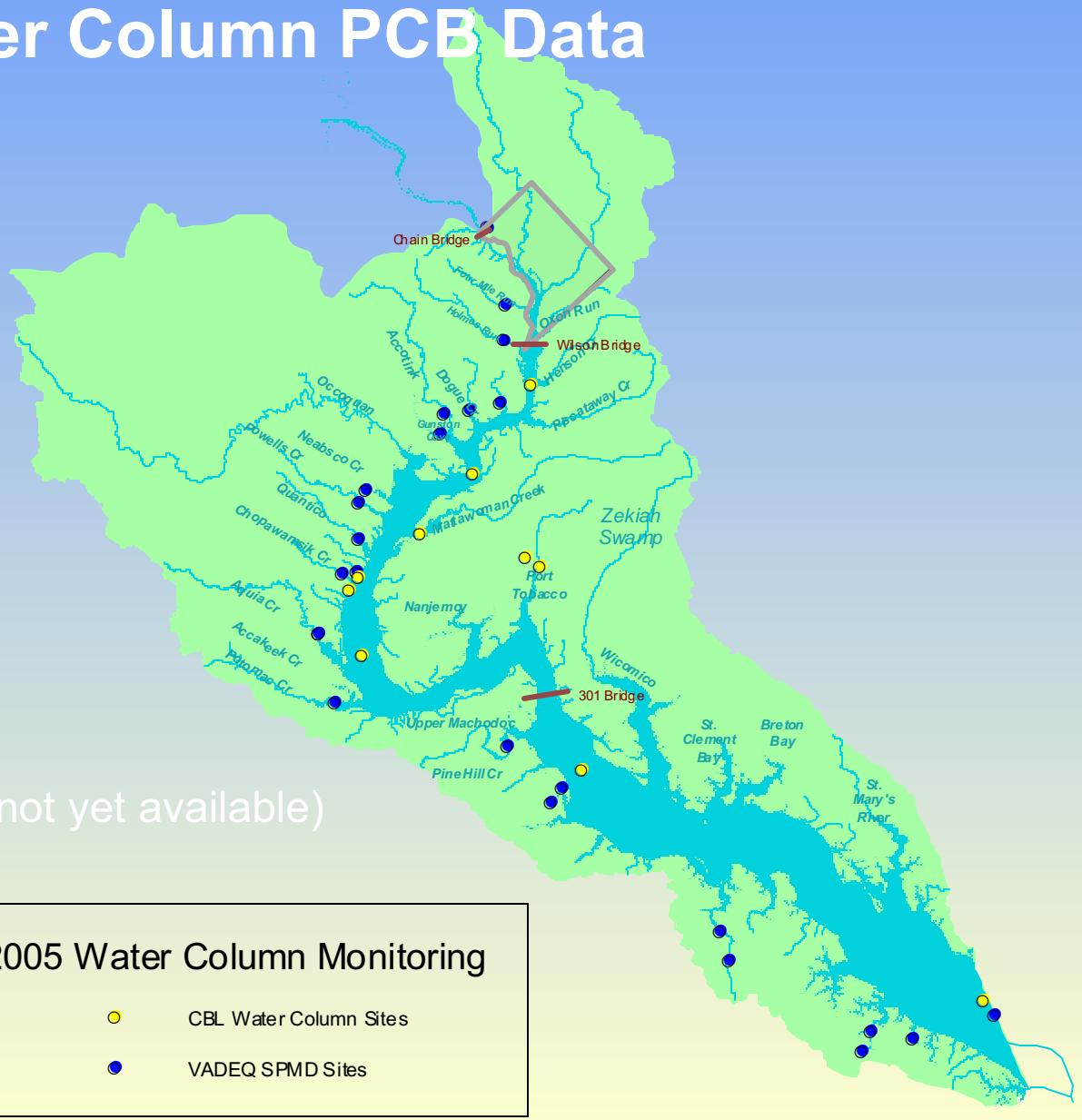
Extras

Potomac River

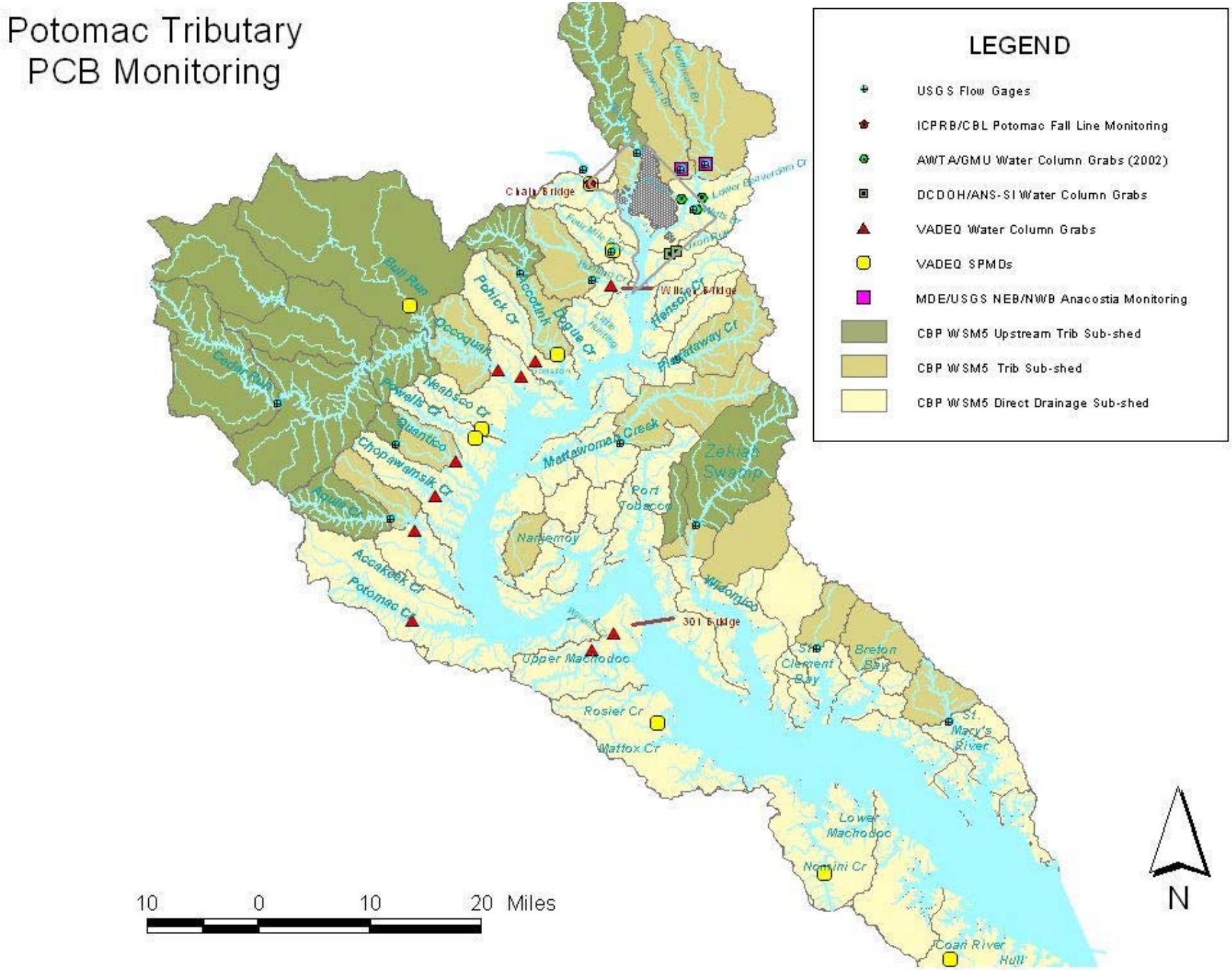
Ambient Water Column PCB Data



(ANS/SI Locations not yet available)

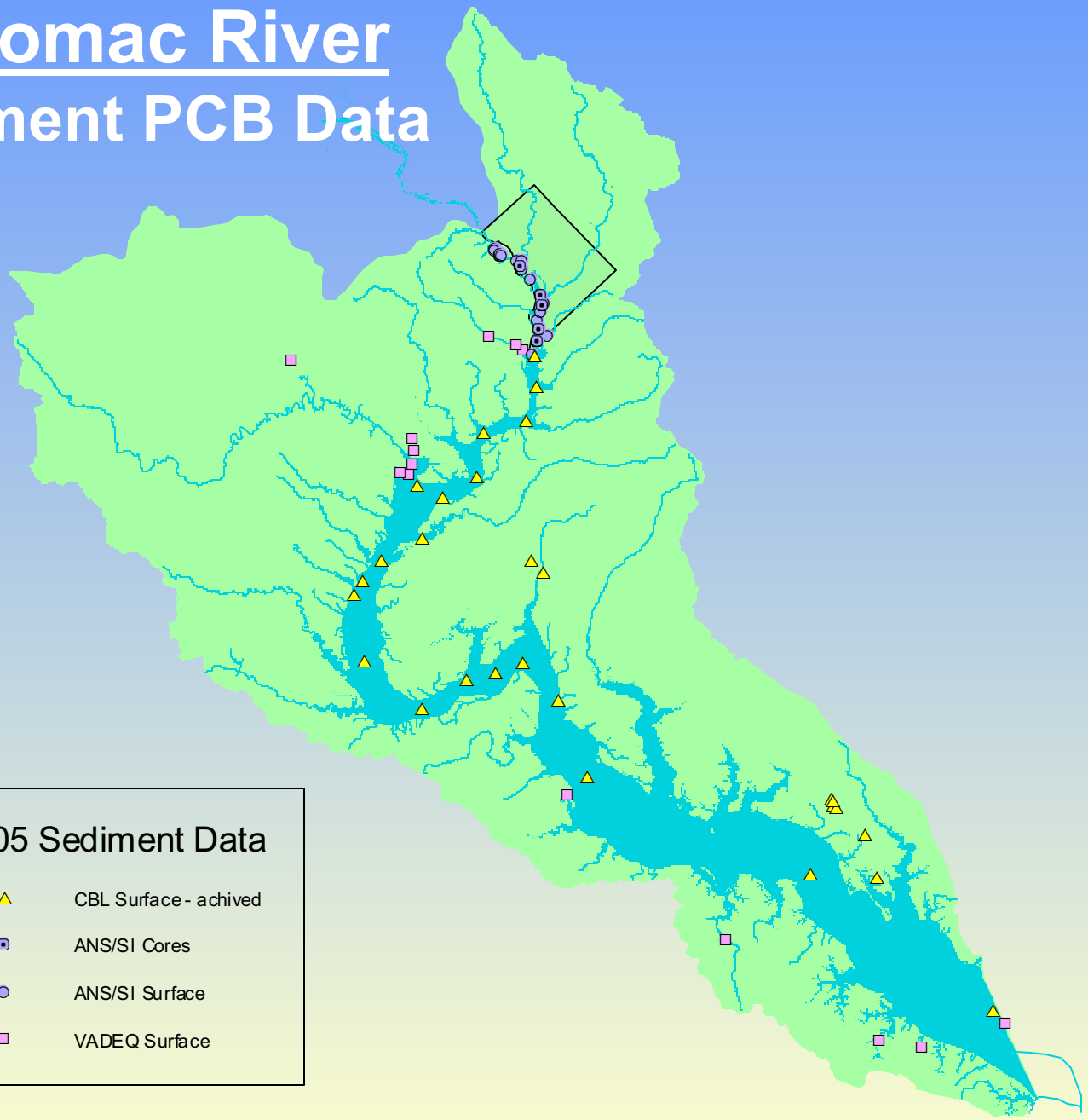
2005 Water Column Monitoring

- CBL Water Column Sites
- VADEQ SPMD Sites

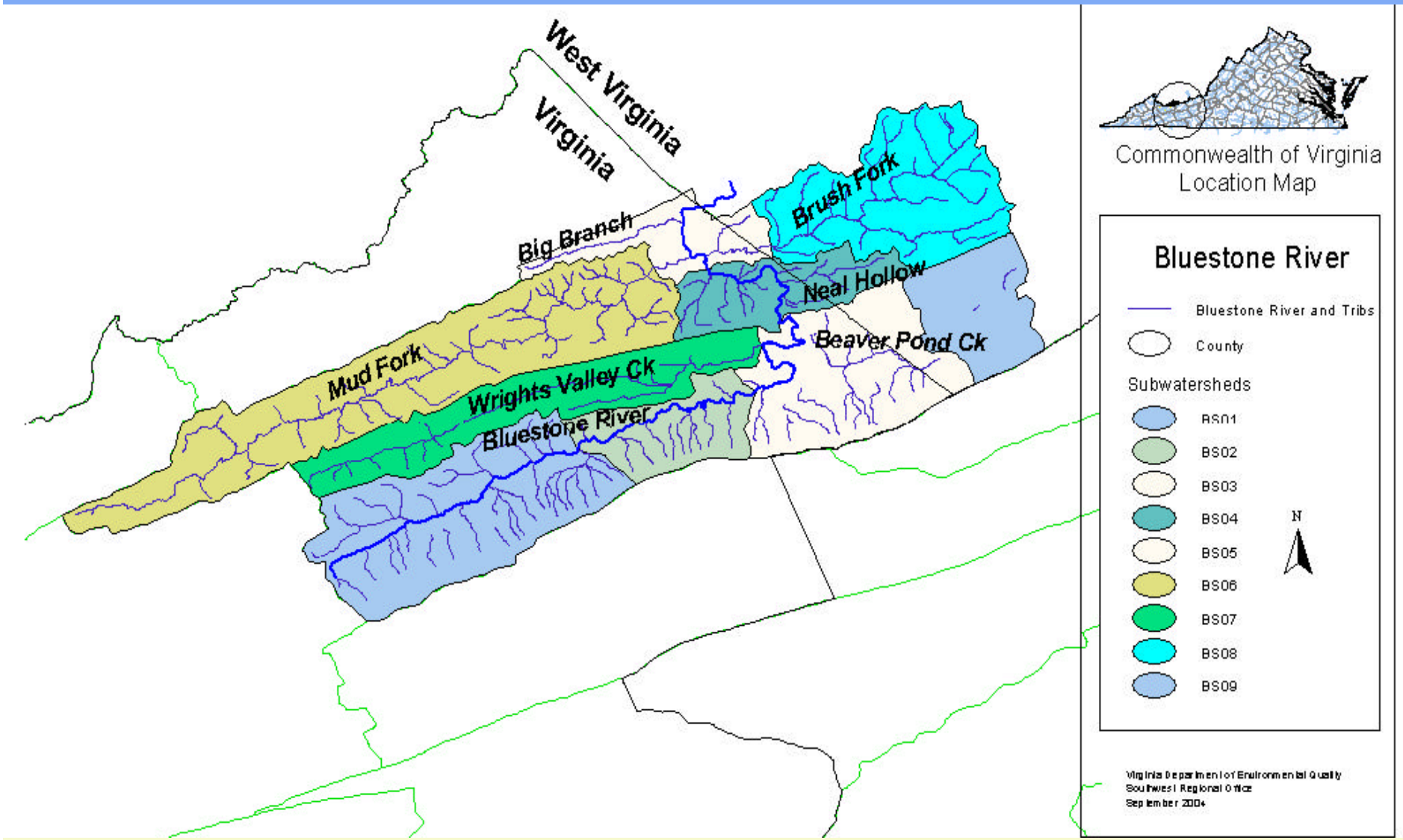

Potomac Tributary
PCB Monitoring
LEGEND
USGS Flow Gages
ICPRB/CBL Potomac Fall Line Monitoring
AWTA/GMU Water Column Grabs (2002)
DCDOH/ANS-SI Water Column Grabs
VADEQ Water Column Grabs
VADEQ SPMDs
MDE/USGS NEB/NWB Anacostia Monitoring
CBP WSM5 Upstream Trib Sub-shed
CBP WSM5 Trib Sub-shed
CBP WSM5 Direct Drainage Sub-shed
Chain Bridge
Wilson Bridge
Occoquan
Neabsco Cr
Quantico
Chopawamsic Cr
Aquia Cr
Accakeek Cr
Potomac Cr
Mattawoman Creek
Port Tobacco
Zekiah Swamp
Nanjemoy
Wicomico
301 Bridge
Upper Machodoc
Rosier Cr
Mattox Cr
St. Clement Bay
Breton Bay
St. Mary's River
Lower Machodoc
Nomini Cr
Coan River
Hull
10 0 10 20 Miles
N

LUNCH
- break -

Potomac River
Sediment PCB Data



Bluestone


West Virginia
Virginia
Big Branch
Brush Fork
Neal Hollow
Beaver Pond Ck
Mud Fork
Wrights Valley Ck
Bluestone River
Commonwealth of Virginia
Location Map
Bluestone River
Bluestone River and Tribs
County
Subwatersheds
BS01
BS02
BS03
BS04
BS05
BS06
BS07
BS08
BS09
N
Virginia Department of Environmental Quality
Southwest Regional Office
September 2004